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AIRCRAFT ACCIDENT REPORT

No. 92-012

Cessna 177B

ZK-DAN

Great Barrier Aerodrome

24 April 1992

Transport Accident Investigation Commission
Wellington · New Zealand

Price $10.60 (including G.S.T.)

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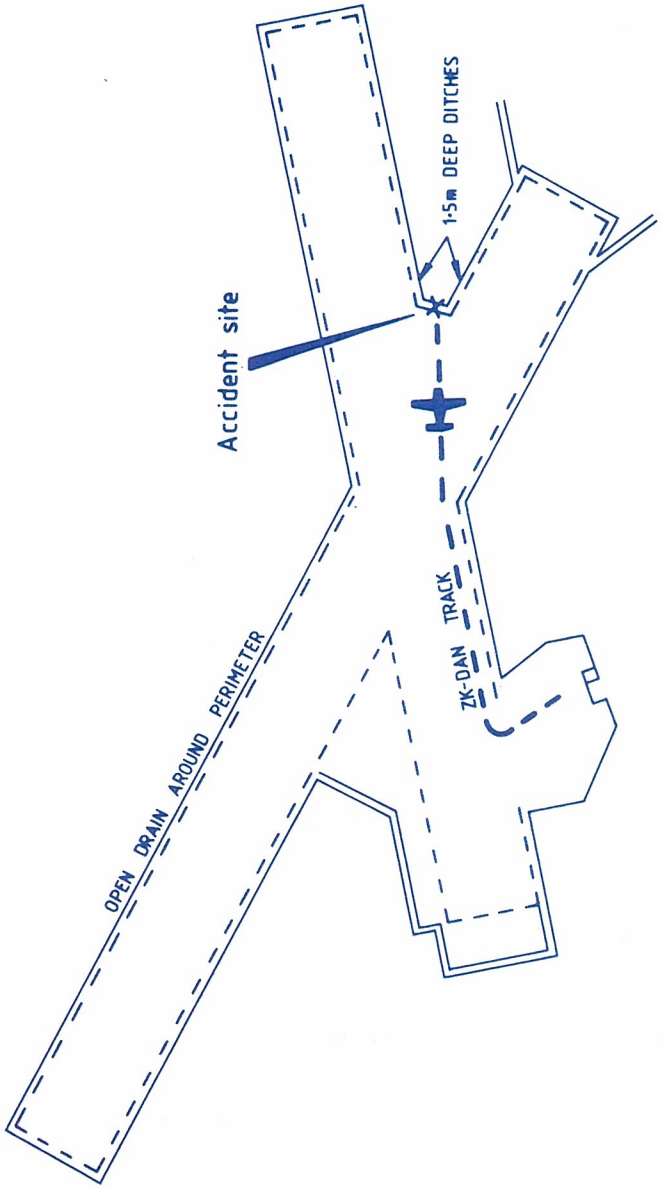
TRANSPORT ACCIDENT INVESTIGATION COMMISSION

AIRCRAFT ACCIDENT REPORT No. 92-012

Aircraft Type, Serial Number and Registration:	Cessna 177B, 17701528 ZK-DAN
Number and Type of Engines:	One Lycoming O-360-A1F6
Year of Manufacture:	1970
Date and Time:	24 April 1992 at 0647 hours NZST
Location:	Great Barrier Aerodrome Latitude: 36°15'S Longitude: 175°28'E
Type of Flight:	Air Transport (Charter)
Persons on Board:	Crew: 1 Passengers: 3
Injuries:	Crew: 1 Nil Passengers: 3 Nil
Nature of Damage:	Substantial to propeller, fuselage and undercarriage
Pilot in Command's Licence:	Commercial Pilot Licence (Aeroplane)
Pilot in Command's Age:	22
Pilot in Command's Total Flying Experience:	520 hours 106 on type
Information Sources:	Transport Accident Investigation Commission field investigation
Investigator in Charge:	Mr R Chippindale



GREAT BARRIER AERODROME Diagram 1

1. NARRATIVE

1.1 The pilot was also the operator and was to fly three passengers from Great Barrier Aerodrome on Great Barrier Island to Auckland Airport.

1.2 The pilot carried out a thorough pre-flight inspection which included a close inspection of the nose wheel area and cleaning the windscreen with a chamois leather cloth.

1.3 She then loaded the passengers, started the aircraft and, after completing an engine runup, commenced taxiing it "at a slow walking pace" from the parking area along the right hand side of runway 06 to the take-off point for runway 24.

1.4 The taxiing was made difficult by the rising sun which was shining through the aircraft's windscreen from a low angle above the horizon. As the pilot proceeded she attempted to maintain direction by observing the tyres marking the right hand edge of the runway through the front seat passenger's window and estimating her distance from the far left side of the runway on her side. She did not consider weaving the aircraft from side to side to see ahead. She did not want to proceed down the left side of runway 06 as she felt such a path made the aircraft vulnerable to others landing without due care and attention.

1.5 As the aircraft crossed the area formed by the intersection with runway 10/28 the aircraft tracked to the right towards a 1.5m deep drainage ditch at right angles to its path. The pilot's first indication of this was the appearance of one of the tyres marking the runway intersection in an unexpected position relative to the aircraft. As soon as she sighted this tyre she braked the aircraft and applied left rudder in an attempt to turn it to the left but it did not change direction and continued into the ditch.

1.6 The occupants were assisted to vacate the aircraft and escaped uninjured. The impact was sufficient to activate the electronic locator transmitter (ELT) which the pilot switched off as the passengers vacated the aircraft.

1.7 The operator/pilot terminated her flight plan and obtained permission to recover the aircraft. The Transport Accident Investigation Commission was not advised of the accident until six days later. The aircraft was under repair before the investigator in charge had the opportunity to visit the scene.

1.8 The recovery team stated that they found a pair of pliers lodged in the nose wheel scissors link before the aircraft was pulled, backwards, out of the ditch. The pilot believed that the pliers must have interfered with the nosewheel steering and prevented her from steering the aircraft away from the ditch. She was adamant that the pliers could not have been positioned anywhere on the exposed section of the nose undercarriage when she carried out her pre-flight inspection prior to taxiing out. She therefore assumed that they had dropped from the engine bay during the short taxi to the accident site.

1.9 The aircraft had made three flights since the last occasion on which it was serviced at Ardmore Aerodrome. A close inspection made of the area of engine cowling adjacent to the scissors link revealed no indication of any interference marks from the pliers. Equally no plausible mechanism for the pliers to fall into the position in which they were discovered, during taxiing

could be established. It was therefore concluded that the force of the impact had dislodged them from some obscure resting place.

1.9 Initials engraved on the pliers identified them as belonging to a mechanic employed by the firm at which the last maintenance was carried out.

2. FINDINGS

2.1 The pilot was appropriately qualified for the flight.

2.2 It was reasonable to assume that a pair of pliers found at the scene had been left inside the aircraft's engine bay during the most recent maintenance.

2.3 The pliers had the potential to interfere with the safe operation of the aircraft.

2.4 No evidence was found to indicate that the pliers were a factor in this accident.

2.5 The aircraft was capable of operating normally up to the time of the accident.

2.6 As the pilot was based on Great Barrier Aerodrome she was aware of the hazard presented by the drainage ditches near the edges of the runways.

2.7 On the morning of the accident, the low angle of the sun rendered it difficult for the pilot to see the way ahead of the aircraft, clearly.

2.8 The pilot did not exercise due caution when she found that she could not be sure if the way ahead of the aircraft was clear of hazards.

2.9 The speed at which the pilot was taxiing the aircraft was such that she did not have time to stop the aircraft before it entered one of the aerodrome drainage ditches.

2.10 The pilot was taxiing too fast for the prevailing conditions.

3. RECOMMENDATIONS

3.1 As a result of this investigation it was recommended to the Civil Aviation Authority that they:

Remind pilots of the basic precautions to be taken when taxiing in difficult conditions.

12 November 1992

M F DUNPHY
Chief Commissioner